

NEWS / BUSINESS

SCIO brings real-time material data to U.S. cheese market with handheld NIR analyzer

By Alyssa Mitchell

ST. CLOUD, Minn. — SCIO Solutions, previously known as Consumer Physics, is bringing game-changing technology to the U.S. dairy industry with the introduction of a handheld near infrared (NIR) analyzer, the SCIO Mini.

SCIO's mission is to revolutionize the way businesses unlock data hidden within physical objects by revealing the makeup of physical materials, providing customers with the information and tools they need to thrive in today's competitive landscape.

SCIO's platform is designed with simplicity and accessibility in mind, ensuring that even non-technical users can easily navigate and utilize its capabilities.

Launched just last year, SCIO collaborated with Novonosis for data collection to ensure a high level of accuracy in the SCIO Mini, the world's first pocket spectrometer that allows manufacturers to get analysis results within seconds with cloud-based data collection technology. The device weighs only 35 grams and is supported by all smartphones, devices and via Bluetooth. If a connection is unavailable, data is stored on the device and later synced to the cloud without any extra steps.

NIR spectroscopy is a valuable tool in the cheese industry for rapidly and non-destructively monitoring cheese composition such as moisture, fat, protein and maturity, aiding in quality control and process optimization. The technology can be particularly beneficial in the cheese aging process as it can be used to monitor the changes in cheese composition and maturity during ripening. NIR analysis also is non-destructive, meaning the cheese samples remain intact after analysis, allowing for further use or sale.

With the introduction of the SCIO Mini, cheesemakers can measure these levels on the go, at any step of the cheesemaking process, giving them the ability to identify issues or defects early on, and saving time and money.

"It can be difficult to observe gradual changes in the cheesemaking process," notes Penny Brown, senior product manager for cheese at SCIO. "If you have an agitator slowing things down, it may be happening so gradually that it's difficult to detect before it's too late. But if you're tracking the product at every stage, you can more easily identify an issue that may be impacting your product quality."

The SCIO Mini patented optical head is just a few millimeters in size, providing sensitivity and accuracy comparable to benchtop spectrometers, the company says. With low power consumption and zero warmup time, it performs hundreds of scans on a small rechargeable battery.

"What's nice about SCIO is that you do not have to do any sample prep — you can put it up against a block of cheese, open the app, press the button and get your results," Brown says. "It's designed for on-the-go measurements. The image of what's absorbed goes up to the cloud and is analyzed with algorithms, which have become even more advanced with artificial intelligence. These newer NIR models are able to draw accuracy with correlations that were not previously possible."

The use of cloud-based data storage also means that data can be accessed from anywhere, Brown notes. Every

scan contributes to an ever-growing database, making SCIO smarter and more precise with every use.

"I think when you build the amount of data you can with SCIO, you realize there may be a lot of inconsistency within your product," she says. "We've had a lot of customers say that if they hadn't changed their process at this certain point, they may have had to throw out the batch — so the product really does pay for itself."

The SCIO Mini dairy analyzers are \$1,200 for a single device, with a one-year subscription to the cloud for \$1,495.

In addition to serving dairy manufacturers, the SCIO Mini also has applications for lab-grade grain, corn and other material analysis.

SCIO also is collaborating with Madison, Wisconsin-based Dairy Connection Inc., which is serving as SCIO's link to cheese facilities in the United States to introduce this technology to American cheese producers. Damian Goldring, co-founder and chief technology officer of Consumer Physics/SCIO, will be available at CheeseCon in Madison, Wisconsin, April 15-17 to share the benefits of the SCIO Mini with U.S. dairy industry players. CMN

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SCIO
SMARTER CHEESE MAKING

CHEESE SCAN RESULTS	
	56.2% Dry Matter March 4, 2025
Moisture	43.8%
Protein	24.6%
Fat	28.9%
Dry Matter	56.2%
SNF	27.3%
FDM	51.4%
MNFS	61.6%
F/P ratio	117
Device SN:	DF2617003B

For more information please visit www.scionir.com